

**From:** [Reynolds, Alan](#)  
**To:** [Radtke, Meghan](#)  
**Cc:** [Odenkirchen, Edward](#); [Sankula, Sujatha](#); [Nesci, Kimberly](#); [McNally, Robert](#)  
**Subject:** RE: 2,4-D choline salt - arthropod survey data  
**Date:** Wednesday, February 05, 2014 11:58:49 AM

---

Hi Meghan-

I'm actually not the expert on non-targets for Bt corn but I'll try to point you to some good sources of information. We have received non-target arthropod survey data over the years as part of our eco data set for Bt corn (based on a recommendation from an SAP in 2002). These studies have been summarized in our "BRAD" documents, which I've highlighted below.

- 1) Cry1Ab and Cry1F Bt corn: <http://www.epa.gov/pesticides/biopesticides/pips/cry1f-cry1ab-brad.pdf> (MRIDs 450201-13, 456520-01, and 467846-01; see discussion starting on page 75).
- 2) Cry3Bb1 Bt corn: <http://www.epa.gov/pesticides/biopesticides/pips/cry3bb1-brad.pdf> (MRIDs 455382-06 and 457916-01; see discussion starting on page 88).
- 3) Cry34/35 Bt corn: <http://www.epa.gov/pesticides/biopesticides/pips/cry3435ab1-brad.pdf> (MRID 461239-14; see discussion starting on page 82).

If my memory serves, we stopped asking for the survey data around 2008. This was because several meta analyses of non target abundance were conducted by academic researchers. These analyses largely found no unexpected adverse effects on invertebrate community structure. The references are:

Marvier, M., McCreedy, C., Regetz, J. & Kareiva, P. (2007). A meta-analysis of effects of Bt cotton and maize on nontarget invertebrates. *Science* 316, 1475–1477

Sanvido, O., Romeis, J., Bigler, F. (2007). Ecological Impacts of Genetically Modified Crops: Ten Years of Field Research and Commercial Cultivation. *Adv Biochem Engin/Biotechnol* 107: 235–278

I hope this information is helpful. Please let me know if you have additional questions (though I'll probably need to consult one of our non-target specialists).

Alan

---

**From:** Radtke, Meghan  
**Sent:** Wednesday, February 05, 2014 7:44 AM  
**To:** Reynolds, Alan  
**Cc:** Odenkirchen, Edward; Sankula, Sujatha  
**Subject:** 2,4-D choline salt - arthropod survey data

Good morning, Alan,

I left you a voicemail this morning, but thought I'd email you too.

I'm part of the EFED team that is evaluating the proposed new uses of 2,4-D choline salt on herbicide-tolerant corn and soybeans. My understanding is that during the meeting with Steve Bradbury last Friday, BPPD was asked to provide EFED with some arthropod survey data that they had for Bt corn fields. The hope is that this information may be useful for our evaluation of the Indiana bat.

I was told that you were the contact person for this effort (if not, can you please connect me to the

correct person?). Could you please give me an update on where you are with compiling this information? I just wanted to make sure the request hadn't fallen through the cracks and get a sense of when you will be able to get it to us.

Thanks!!!

Meghan

Meghan Radtke, Ph.D., Biologist

Acting Risk Assessment Process Leader

Environmental Fate and Effects Division

U.S. Environmental Protection Agency

Phone: 703-347-0229